

OFFICE OF PLANNING, RESEARCH, AND ACCREDITATION

# Saddleback College Degree/Transfer Completion Rates, Career Technical Education Completion Rates, and Career Development College Preparation Completion Rates

# Trends over Five Cohorts Comparisons to Statewide Performance

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# **Executive Summary**

## Purpose and Scope

- This report assesses the Degree/Transfer Completion Rate, Career Technical Education Completion Rate, and the Career Development and College Preparation Rate based on five cohorts. The analysis follows each cohort for six years examining whether goals were met within that period.
- The report's objectives are to make policymakers, local college officials, and elected boards aware of system and college performance in specific areas of effort and to inform the public about overall system performance.
- As with all research, certain limitations must be considered. The limitations include the following:
  - The report covers only those students who met qualifications for membership in the various cohorts.
  - The report covers only certain specific outcomes.
  - The analysis is based on data publicly available on the State Chancellor's office Data Mart.
  - Short-term trend analysis demands a considered approach.

# **Key Findings**

- For all three completion metrics included in the Scorecard (Degree/Transfer Completion, CTE Completion, and CDCP Completion Saddleback College success rates exceed the rates shown statewide.
- The Degree/Transfer Completion Rate allows for the disaggregation into two categories or levels of college readiness – college-prepared and college-unprepared (or remedial). The completion rate at Saddleback College for the college-prepared group matches the statewide rate, while for the college-unprepared Saddleback College exceeds the statewide rate.
- Completion rates for all thee metrics are increasing at Saddleback College at a rate faster than statewide increases.
- The ethnic composition of the Degree/Transfer Completion cohort indicates that Hispanic students are seeking degrees or transfers at a rate that exceeds their representation in the student body. This is clear evidence of successful student equity efforts in this area.

## Introduction

The Scorecard was developed in 2012 and is the current accountability framework for all 113 California Community Colleges (CCC). The purpose of the Scorecard is to provide stakeholders with clear and concise information about student progress and success. The core of the framework is a series of college level measures. These measures reflect the breadth and scope of community colleges diverse missions and provide a standardized view of each college's performance across areas.

This report will examine three Scorecard metrics: (a) Degree/Transfer completion rate, (b) Career Technical Education (CTE) completion rate, and (c) the Career Development and College Preparation (CDCP) completion rate. Each metric is calculated for well-defined cohorts, using specific outcomes, and tracks students for a specified period. Saddleback College data will be compared to statewide averages for each metric.

Other measures of success will soon be incorporated into the Scorecard. California's community colleges have spent the past two years examining what happens to students who attend for a time but leave without a certification or degree. Many of them do not drop out in the traditional sense. Instead, they take one or two career or technical education courses at the community colleges and then leave. Using employment and student data, community colleges have been able to determine that after finishing just a few courses, these "non-completers" receive promotions or increases in wages that allow them to move up in their careers and contribute more to the state's economy. The state is calling this new cohort of students "skills builders". Skills builders are commonly found in fields such as administration of justice; child development education; accounting; fire technology; business and commerce; and information technology. The group, which is defined as students who have completed less than a year of career technical education, but at least one course, will be added to the Scorecard assessment in March of 2016. It is unclear when the first cohort will begin to be tracked.

## **Scorecard Metrics**

**Degree/Transfer completion rate.** This measure examines the percentage of degree and/or transfer seeking first-time students tracked for six years to determine who succeeded in completing a degree, certificate or transfer related outcome.

The degree/transfer completion rate cohort uses three important student characteristics to define a subset of students who are the population of interest. These student characteristics are:

 Only first-time students are included. The degree/transfer completion rate is used to examine outcomes across institutions. In order to increase the validity of the outcome measure, other alternative contributors to student success must be eliminated. Previous experience in a higher education setting is one alternative contributor. If students have varying degrees of college experience (e.g., if some have transferred from another 2year or 4-year institution), it is difficult to separate the effects of programs at previously attended institutions from those that are unique to the particular college under consideration.

- 2. Students' intentions or goals are inferred from their course-taking behavior. Students applying to CCCs state an educational goal as part of the application process, but these statements have proven unreliable. Students applying for college may put little cognitive effort into selecting their initial educational goals, so those goals are subject to various biases and considerable instability over time. An alternative to self-reported goals is to view specific behaviors as 'signals' for academic intentions. In particular, cluster analysis of course-taking behaviors has been used as a way to group California's community college students (Bahr, 2010; Bahr, 2011). As a result, the degree/transfer completion metric is based on students who show behavioral intent towards a particular outcome. For instance, students earning six credits or taking math or English courses within the first three years are identified as intending to complete an associate's degree or certificate, or to transfer to a baccalaureate institution, and are included in this cohort. All other students are assumed to have other goals and many are included in other metrics.
- 3. Only students with valid Social Security numbers (SSNs) are included in the cohort. SSNs are needed to exclude students who have previous experience in postsecondary education (non-first-time students) and to determine whether students achieved completion at a different institution than where they began.

The cohort is tracked for six years (the 2005-2006 Cohort they will be tracked until 2011-2012). Completion is defined as achieving one of the following outcomes within six years:

- 1. earned an A.A., A.A.-T, A.S., or A.S.-T degree or certificate (Chancellor-approved), or
- 2. transferred to a four-year institution, or
- 3. achieved transfer-prepared status.

This report provides an "overall" rate (the entire cohort), and for "college prepared" (those students whose lowest attempted Math or English course was at the college level) and "college unprepared" (those students whose lowest attempted Math or English course was at the remedial level) groups within the cohort. Within these three groups, further analysis will examine differences in gender, ethnicity, and age.

**Career Technical Education completion rate.** Rather than identifying first-time college students, this cohort is based on students who completed a CTE course for the first time during an academic year, and completed more than eight units of career technical education or apprenticeship in a single discipline (2-digit vocational TOP code where at least one of the courses in occupational SAM B or C) in the subsequent three years. Only students in credit courses with a valid SSN are included in the cohort.

One of the following outcomes must be achieved within six years of entry in order to be counted as completion:

- 1. earned an A.A., A.A.-T, A.S., A.S.-T or a Chancellor-approved credit Certificate, or
- 2. transferred to a four-year institution of higher education, or
- 3. achieved "transfer-prepared" status by successfully completing 60 UC/CSU transferable units with a minimum GPA of 2.0.

**Career Development and College Preparation completion rate.** For this metric cohort membership is predicated on attempting two or more CDCP courses, sometimes referred to as "enhanced noncredit courses", with a minimum of four attendance hours in each course, within three years of entry. Students who took at least one credit course are excluded from the cohort, as are students with prior enrollment outside the CCC. Only students with a valid SSN are included in the cohort. Any data matches requiring SSNs will yield incomplete data given that only about 30% of CDCP students report a SSN, according to the California Community Colleges Chancellor's Office (CCCCO) in their 2012 CDCP Report.

Since enhanced funding for noncredit courses began in the 2006-2007 academic year, some of the cohorts in this analysis are "analog cohorts". These analog cohorts were constructed using students who took courses that were retroactively recoded as CDCP courses.

One of the following outcomes must be achieved within six years of entry in order to be counted as completion:

- 1. earned a noncredit CDCP Certificate of completion (leading to improved employability or job opportunities), or
- 2. earned an A.A., A.A.-T, A.S., or A.S.-T degree, or
- 3. transferred to a four-year institution, or
- 4. achieved "transfer-prepared" status by completing 60 UC/CSU transferable units with a minimum GPA of 2.0.

## Purpose

The report's objectives are to make policymakers, local college officials, and elected boards aware of system and college performance in specific areas of effort and to inform the public about overall system performance.

#### Limitations

This report, at best, is based on an analysis of success by cohorts, which cover less than half of the total student population at Saddleback College. Cohorts, once established, will not increase in size. The difficulty encountered in tracking students when they are no longer enrolling in classes on this campus creates a cohort that can only decrease in size over the period of six years.

This report covers only four specific outcomes defined as measures of success. There are certainly many outcomes that students define as success. Some of the alternative success outcomes may, in fact, become part of the scorecard in the future.

Judgments about institutional success should not be based on the outcomes of a single cohort, or even a short-term trend. Bahr, Hom, & Perry (2005) suggest that at least three unique cohorts of the same type (e.g., completion cohorts from 2008-2009, 2009-2010, and 2010-2011) be observed before generating conclusions about a college because this reduces the possibility of identifying a college as 'low performing' based on random variation in the behavior of a single student cohort.

#### **Scope of Report**

This report will examine three Scorecard metrics; Degree/Transfer completion rate, Career Technical Education (CTE) completion rate, and the Career Development and College Preparation (CDCP) completion rate. Each metric is calculated for well-defined cohorts, using specific outcomes, and tracks students for a specified period. Saddleback College data will be compared to statewide averages for each metric. Other measures of success will soon be incorporated into the Scorecard, but they are not the focus of this report.

Many individually or societally beneficial outcomes are not discussed in this report.

#### Methods

The Office of Research, Planning and Accreditation (OPRA) examined data publicly available on the California Community Colleges Chancellor's Office Management Information Systems Data Mart (data mart). The data mart provides information about students, courses, student services, outcomes, and faculty and staff. The emphasis of the data mart is to answer the questions of administrators, educators, parents, students, state leaders, and professional organizations. Because the data mart is aimed at supplying information to a wide variety of users, the interface and query functions insure the data are easily accessed and processed.

Data for five cohorts was first extracted on a statewide basis for each of the metrics. The five-year statewide data covers cohorts from 2004-2005 (completion in 2010-2011) to 2008-2009 (completion in 2014-2015). The five-year data for Saddleback College covers cohorts from 2005-2006 (completion in 2011-2012) to 2009-2010 (completion in 2015-2016). The difference means that only the four overlapping cohorts can be the basis for comparative analyses. Four cohorts meet the criteria of comparison over at least three cohorts (Bahr, Hom, & Perry, 2005).

At the second step, data for five cohorts was extracted for Saddleback College for each of the metrics.

Data was exported to SPSS or Excel in order to facilitate analysis and reporting of results.

Disaggregation by gender, age, or ethnicity was only undertaken in those cases where such disaggregation did not produce less than ten individuals in a particular cell. In some instances (e.g. individuals in the American Indian/Alaska Native ethnicity group in the CDCP 2007-2008 cohort) no individuals from a particular ethnic group were met the requirements for inclusion in a cohort, consequently these cells are empty. In other instances, the number of individuals in a particular cell was less than ten, and in these cases in order to prevent the identification of individuals, the cells are also left empty.

Charts were prepared to visually present the data to enhance understandability using the charting features of Microsoft Excel. As appropriate, linear trendlines were added to graphs and charts using the trendline function in Microsoft Excel.

## Using Cohorts to Measure Progress and Completion

A cohort is a group of individuals with similar characteristics. A key to successful cohort analysis is defining cohorts that accurately capture the population of interest. The cohorts in this analysis are comprised of students who enter a college, program, or a series of courses during the same academic year. Analyzing students by cohorts allows researchers to follow the same individuals over time in order to isolate the impact of various treatments (e.g. enrollment at a specific college or in a specific program) from other factors that might influence outcomes. In studies that use different students at each time point, instead of a cohort, a change in outcomes could reflect the impact of a change in the sample rather than the treatment of interest.

The California Community Colleges Chancellor's Office (CCCCO) began using cohorts as a basis of measurement in limited circumstances as early as 2002. In 2004, the Accountability Reporting for the Community Colleges (ARCC) came into use as a result of Assembly Bill 1417. The original ARCC metrics had smaller cohorts than the Scorecard because there was a higher threshold for inclusion in a cohort. For example, to be identified as a degree/transfer student in ARCC, a student had to have completed 12 units and attempted a college-level math or English courses in their first three years of enrollment. In the Scorecard, they need only complete 6 units and attempt any math or English course in those three years.

## **General Comments about Cohort Size and Composition**

The size of each cohort relative to the number of enrolled students for each academic year appears small, but each criterion for inclusion is necessary to create accurate cohorts. That being said, it is important to note that, over time, a large number of students enrolled in a particular academic year, e.g. 2008-2009, are incorporated into some cohort even if that cohort is not included in the 2015 Scorecard. While a small percentage of those students were included in a completion, remedial, or CTE cohort and were used in the calculation of the 2015 Scorecard metrics (21.5%), many of those excluded are contained within other cohorts and, therefore, other Scorecards. A full 47.4% were placed in a cohort between the 2004-2005 and 2008-2009 academic years and are included in one of the first five Scorecards (2011 through 2015). We should expect that as the number of Scorecards grows the higher a percentage of students will be represented from any given academic year.

Smaller analytic cohorts in the Scorecard are caused by two distinct, nevertheless related, considerations. First, behavioral indicators are relied upon to identify goals because of the lack of reliable data from students regarding educational goals. Second, the varied missions of the system result in a large number of unique student goals. The large number of system missions also may produce students with multiple goals or may lead them to change goals during their career. These students may or may not fall into any outcome cohorts.

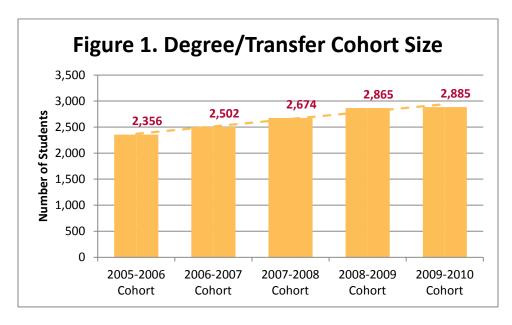
#### Results

The results will be organized by metric. In order of presentation, not importance: the first is Degree/Transfer Completion; the second is CTE Completion; and finally CDCP Completion.

### **Degree/Transfer Completion Rate**

Figure 1 shows the increase in the degree/transfer completion overall cohort size from 2,356 in 2005-2006 to 2,885 in 2009-2010, an increase of 529 students or 22.45%.

This rate of increase corresponds closely to the overall enrollment increase during the same period of 21.77%



This degree/transfer completion cohort can be disaggregated into those students who are "college-prepared" and "college-unprepared", with the distinction based on whether the student's lowest attempted Math or English was at the college level (prepared) or was remedial (unprepared.) Figure 2 shows the disaggregated groups at Saddleback College. The percentage of this cohort that is "college-prepared" increased from 41% to 47%, and while this portion of the cohort is still less than half of the total cohort, it is increasing over time. Concomitantly the percentage of the cohort that is "unprepared" is decreasing.

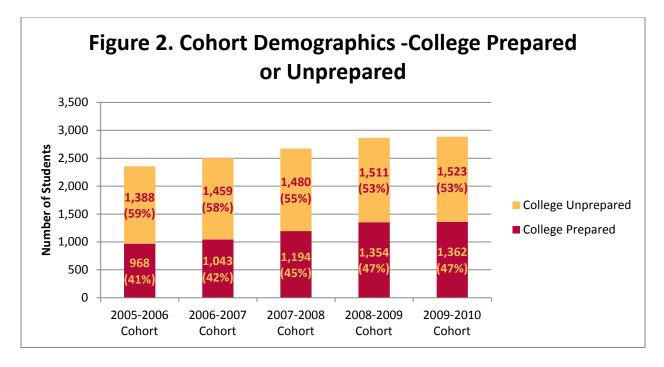


Figure 3 shows the result of disaggregating the entire cohort on the basis of gender. It is rare that males outnumber females. That is not the case when the entire Saddleback College student body is disaggregated. This finding reinforces the distinction between a cohort and the entire student body without the qualifiers that determine inclusion in a particular cohort. In 2005-2006, 51.99% of the cohort was male; in 2009-2010, 52.55% of the cohort was male.

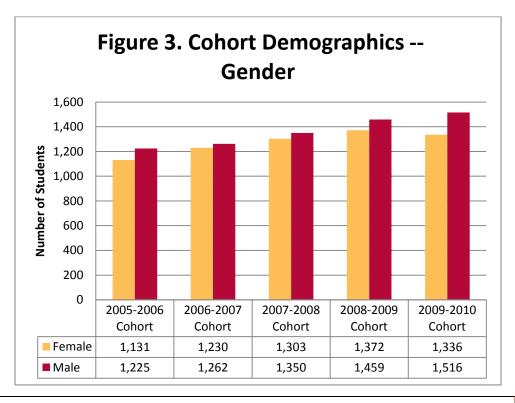


Figure 4 shows disaggregation of the entire cohort on the basis of broad age groups. The lion's share, 88.37% in the 2005-2006 cohort decreasing to 86.86% in the 2009-2010 cohort, is less than 20 years of age. In the overall Saddleback College student body, only 22.92% were under 20 years of age (at first enrollment) in 2005-2006, increasing slightly to 24.29% in 2009-2010.

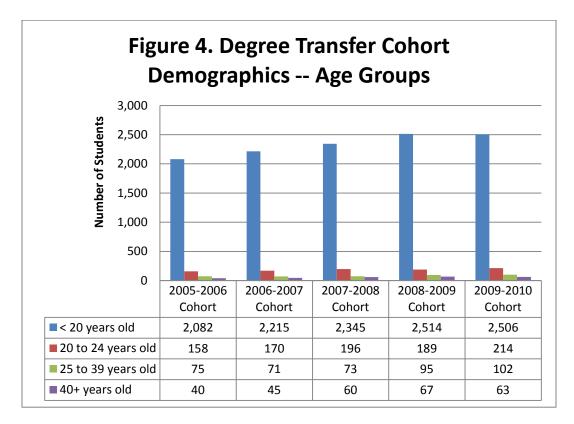
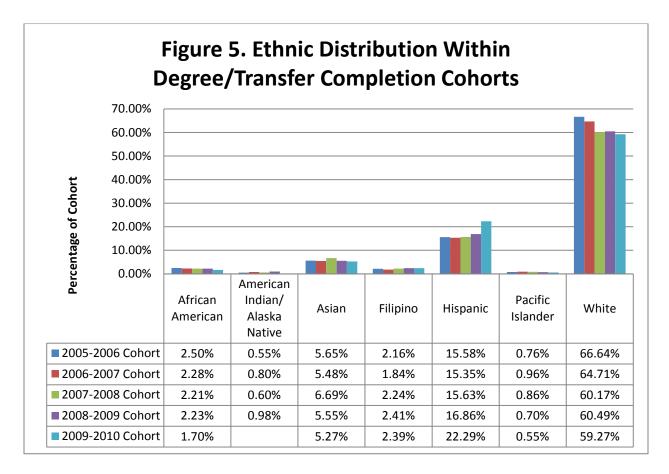


Figure 5 shows the distribution of broad ethnic groups within cohorts. Notice that the cell for American Indians/Alaska Natives in the 2009-2010 cohort is intentionally left empty. There were less than ten students in this category.

The ethnic composition of the degree/transfer completion cohort has changed over this period. In spite of the percentage of whites in the overall student body remaining relatively stable at 65%, the percentage of whites in the cohort decreased from 66.64% in 2005-2006 to 59.27% in 2009-2010. Asian students made up 8.43% of the student body in 2005-2006 increasing to 8.84% in 2009-2010. However, the percentage of Asian students in the cohort was significantly lower overall and decreased from 5.65% in 2005-2006 to 5.27% in 2009-2010. African American students made up 1.69% of the student body in 2005-2006 decreasing to 1.56% in 2009-2010. They are over-represented in all yearly cohorts, though their percentage of the cohort is decreasing, from 2.5% in 2005-2006 to 1.7% in 2009-2010. Hispanic students account for 12.55% of the overall student body in 2005-2006 increasing to 14.69% in 2009-2010. In the five cohorts, they account for between 15.50% and 22.29%. This finding is of particular importance when considering the impact on Student Equity initiatives



Further examination of the Hispanic composition of the overall cohort reveals that the number of students in both the "college-prepared" and the "college-unprepared" increased at a steady rate over the five cohorts. Figure 6 illustrates the growth in numbers during the period. The trendlines for both segments of the cohort are parallel, indicating that the growth in the number of Hispanic was evenly distributed between the segments.

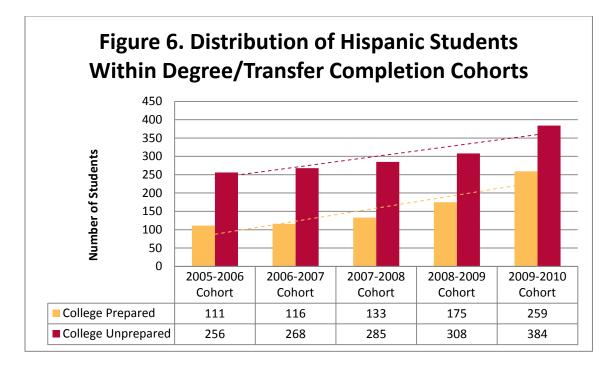
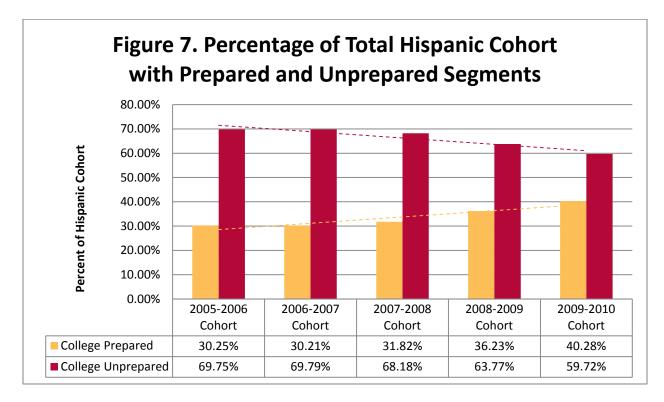
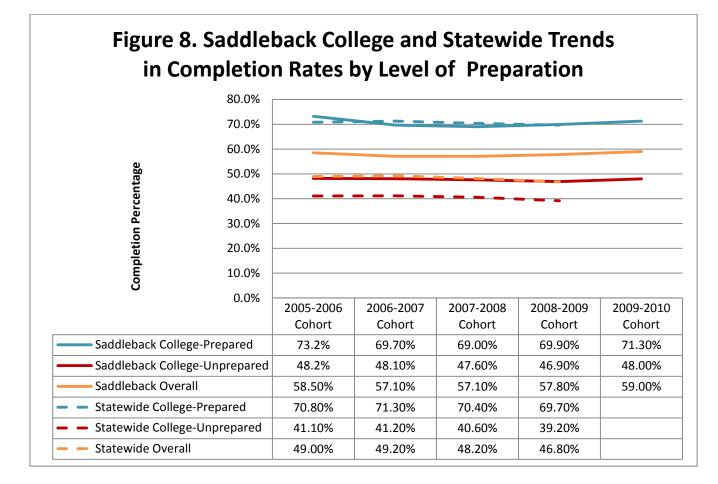


Figure 7 shows the growth in the percentage of Hispanic students in the "collegeprepared" and "college-unprepared" segments of the five cohorts. The trendlines indicate that the "college-prepared" Hispanic students are becoming a larger part of the Hispanic cohort in general over the cohort years.



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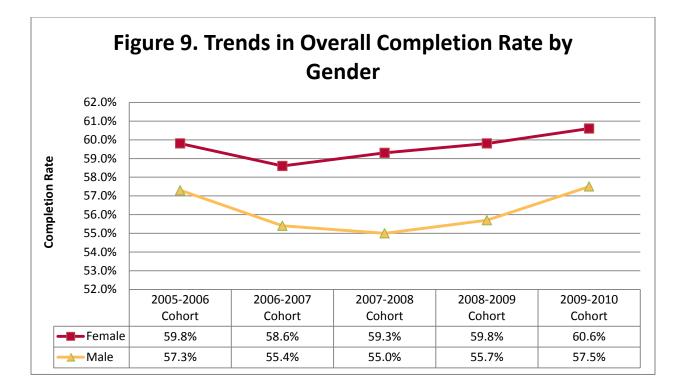
Figure 8 shows the completion rate for the overall cohort, college-prepared, and college- unprepared groups, allowing for a comparison of Saddleback College to the State-wide rate.



Saddleback College equaled statewide performance for the college-prepared segment of the cohort over the comparison years. Saddleback College surpassed the statewide level of performance for the college-unprepared segment by 6.7 - 7.1%. When the two segments are combined to yield the overall performance, Saddleback College again surpassed statewide performance.

It should be noted that Saddleback College's stable rate for the prepared segment when combined with increasing cohort size means an increase in the number of students successfully completing.

Disaggregation of overall completion rates by gender is shown in figure 9. Females consistently outperformed males by 3 - 4%. The range of variability is low, from 55% to 57.5% for males, and from 58.6% to 60.6% for females over the five cohorts.



Disaggregation of overall completion rates by age groups is shown in figure 10. The segment of the cohort that began their post-secondary career when less than 20 years of age outperformed all other segments of the cohort by over 10 percentage points over all cohorts. This finding is generally consistent with the extant research base.

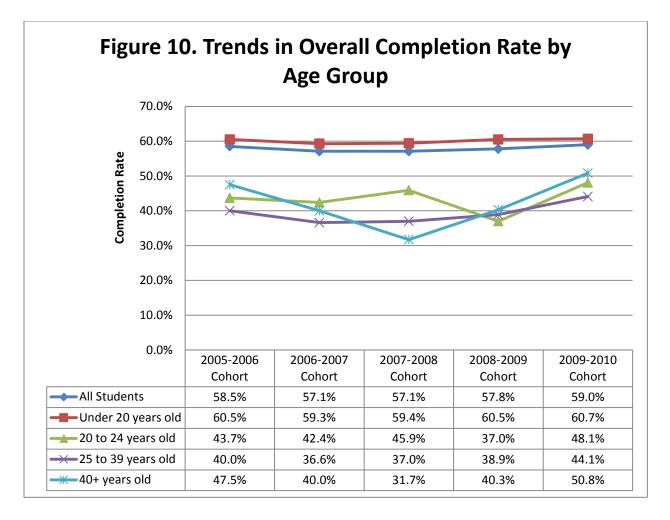
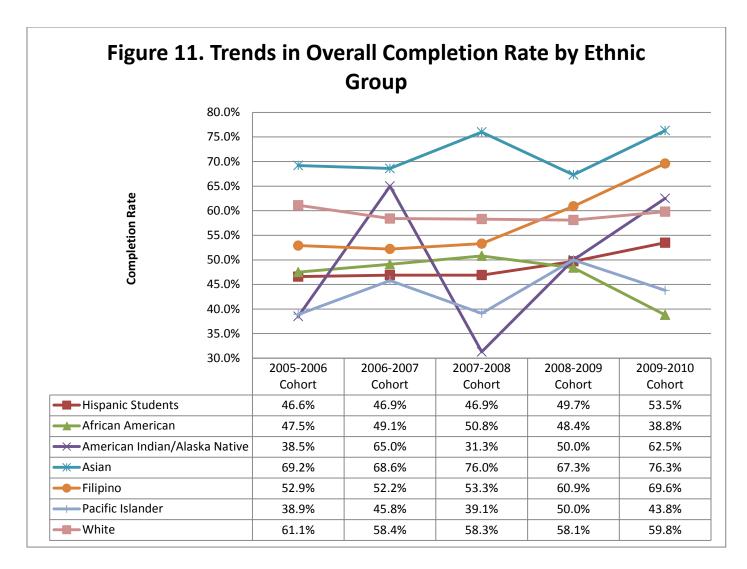
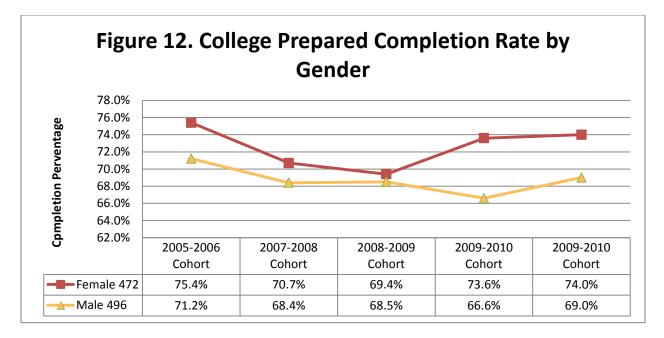


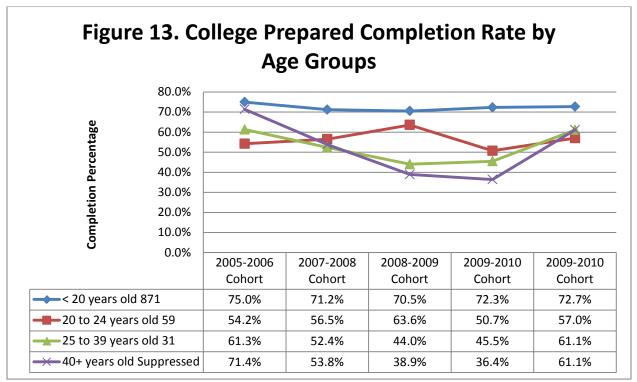
Figure 11 shows overall completion rates disaggregated by ethnic groups. Asian students outperformed all other ethnic groups. All ethnic groups showed an increase in completion rates from 2005-2006 to 2009-2010 with the exception of African American students, who showed a decrease from 47.5% in 2005-2006 to 38.8% in 2009-2010 after an initial period of increasing rates over the first three cohort years. This apparent extreme variability in success rates within some ethnic groups may be a statistical artifact related to the extremely low number of students in this group. The rate for the Filipino and American Indian/Alaska Native ethnic groups are based on very small samples within the cohorts (in fact, the number of students in these groups is so small that the number of successful completions is not reported due to privacy concerns.)

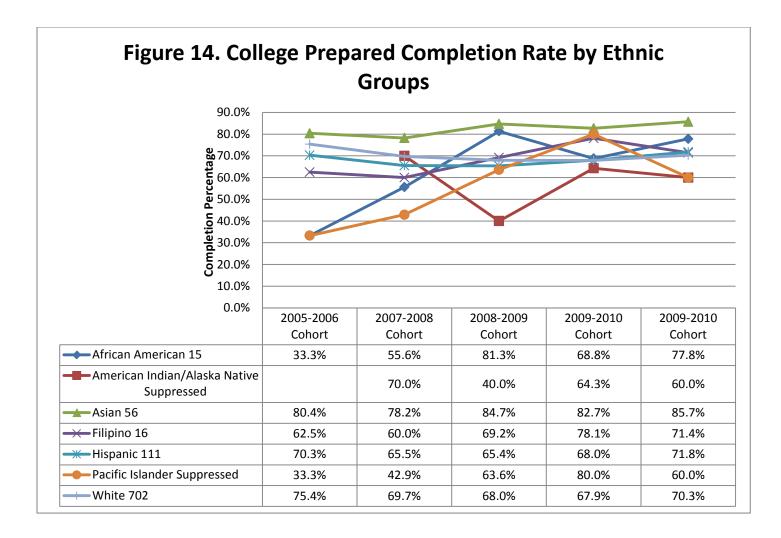


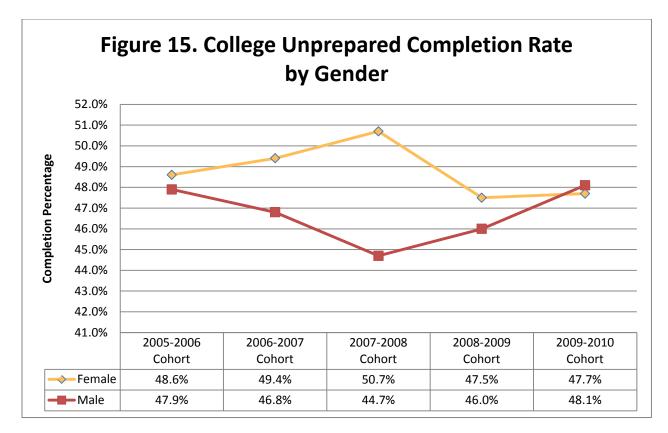
Figures 12, 13, and 14 are based on only the college prepared segments of all cohorts. Figure 12 shows the degree/transfer completion rate disaggregated by gender; figure 13 shows disaggregation by age groups; and figure 14 shows disaggregation by ethnic groups.

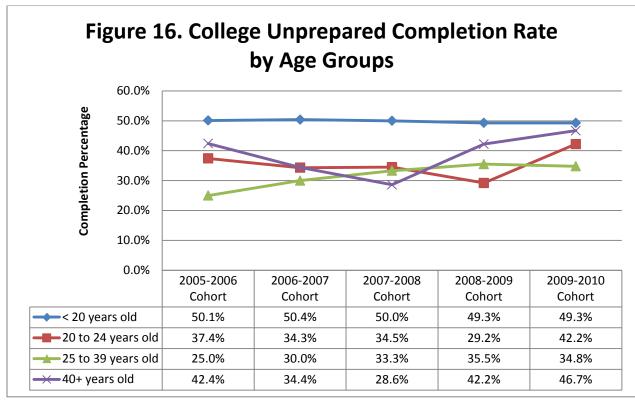
Figures 15, 16, and 17 are based on only the college unprepared segments of all cohorts. Figure 15 shows the degree/transfer completion rate disaggregated by gender; figure 16 shows disaggregation by age groups; and figure 17 shows disaggregation by ethnic groups.

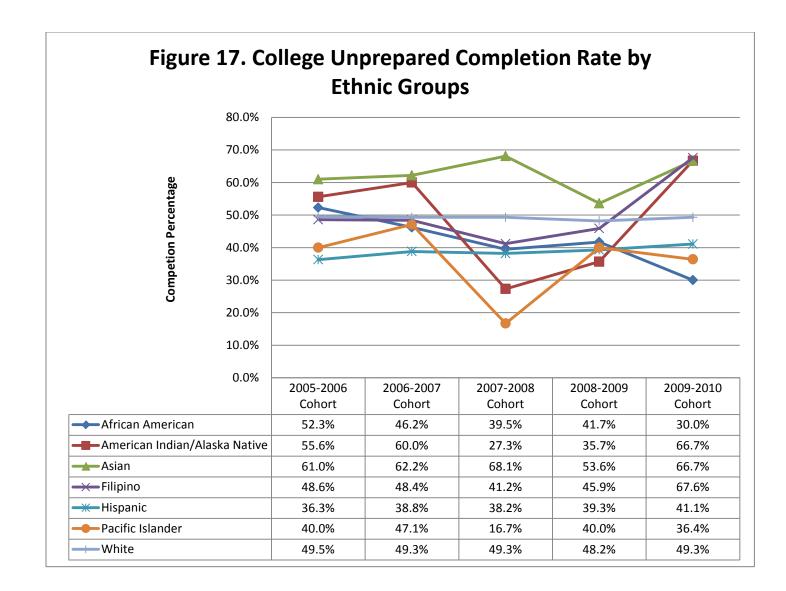






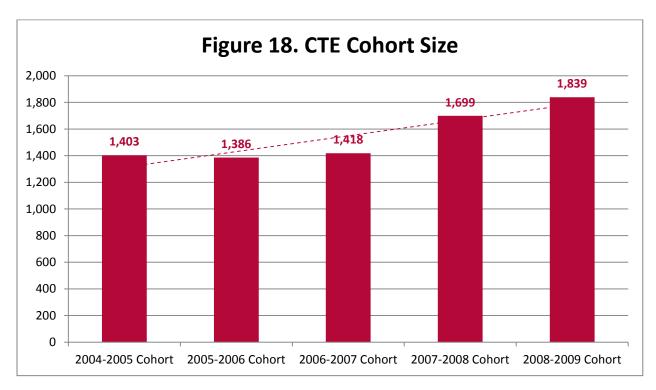


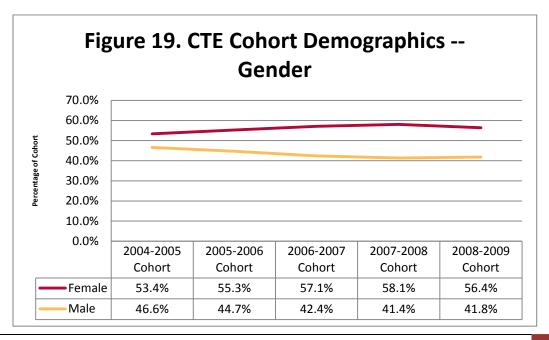




# **Career Technical Education Completion Rate**

Figure 18 shows the number of students in each cohort. The number of CTE students is increasing, from 1,403 in 2004-2005 to 1,839 in 2008-2009, an increase of 31.08% over the five cohort years. The most pronounced growth in the cohort came in the last two cohorts.





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Figure 19 shows the demographic makeup of the CTE cohorts by gender. Figure 20 shows the demographic makeup of the CTE cohorts by age groups. The segment of the cohorts under 20 years of age (at first enrollment) is decreasing over time, while the segment from 25 to 39 years of age is increasing.

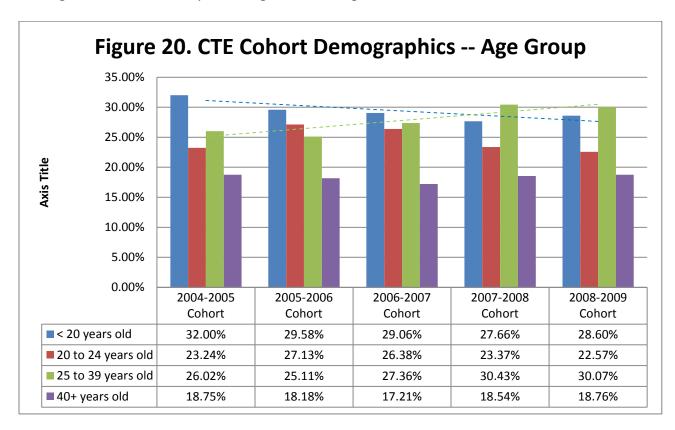


Figure 21 shows the demographic makeup of the CTE cohorts by ethnic groups. It is of note that two ethnic groups, American Indian/Alaska Native and Pacific Islander were excluded from this analysis due to privacy concerns (there were ten or fewer students in some of the cells following disaggregation by ethnic group.)

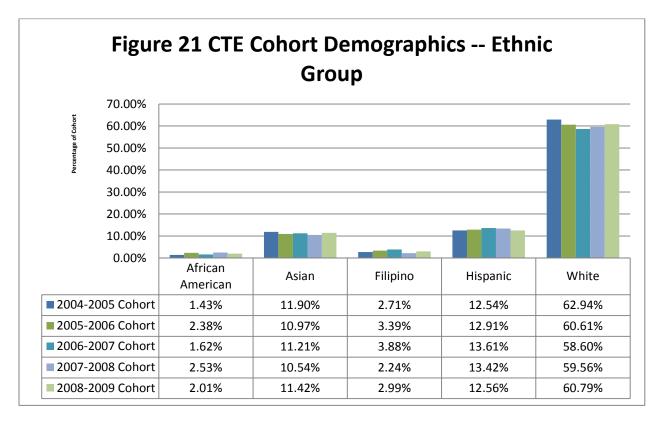


Figure 22 shows CTE completion rates disaggregated by gender. Males outperformed females consistently by between 3 and 5 percentage points.

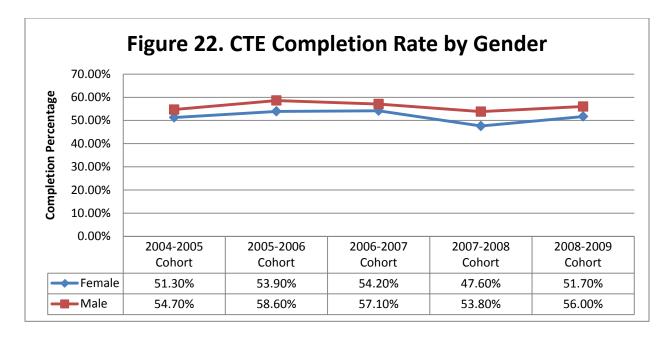


Figure 23 shows CTE completion rates by age groups.

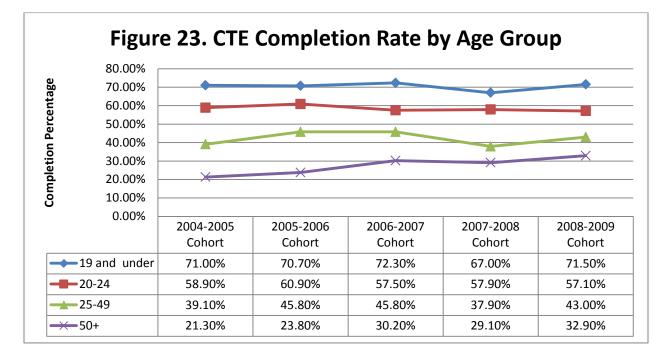
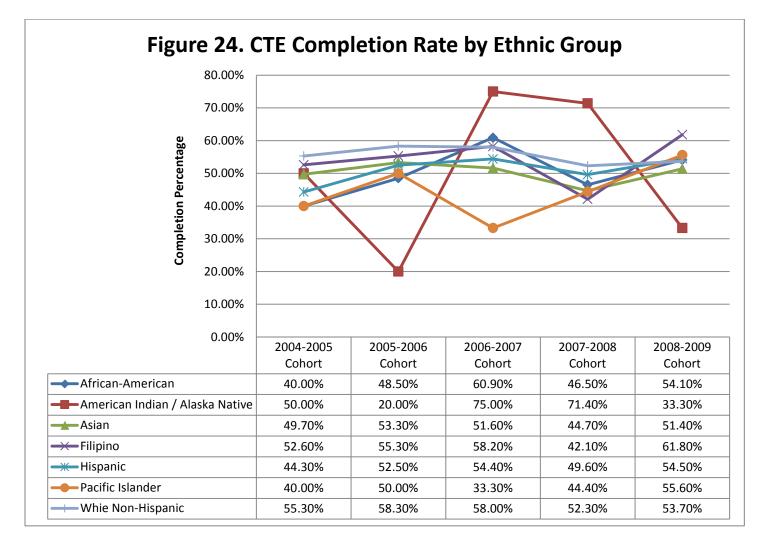


Figure 24 shows CTE completion rate by ethnic group. African Americans showed the most variability probably the result of very low numbers in the cohort. The smaller the number of cohort members, the more pronounced the variability will appear to be.



# **Career Development and College Preparation Completion Rate**

The CDCP metric was included in the Scorecard in 2006-2007, therefore only four cohorts have been recorded. The total number of students in each cohort is very small. Figure 25 shows the number of students included in each cohort at Saddleback College.

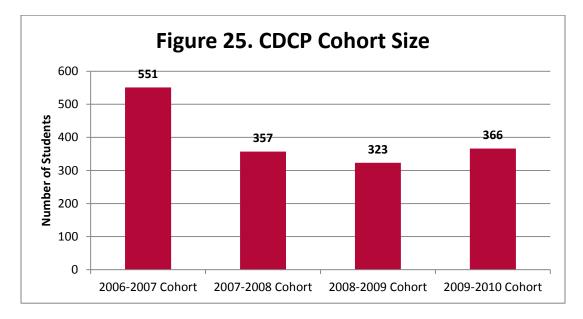
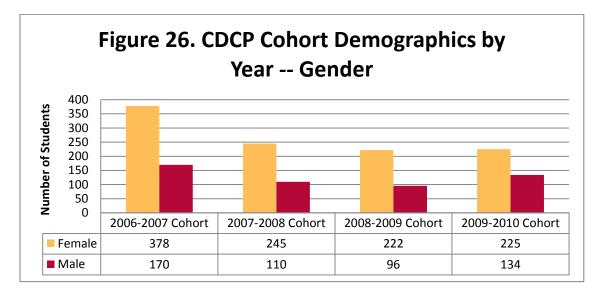


Figure 26 shows the demographic makeup of the CDCP cohorts when disaggregated by gender. Females outnumber males in all cohorts.



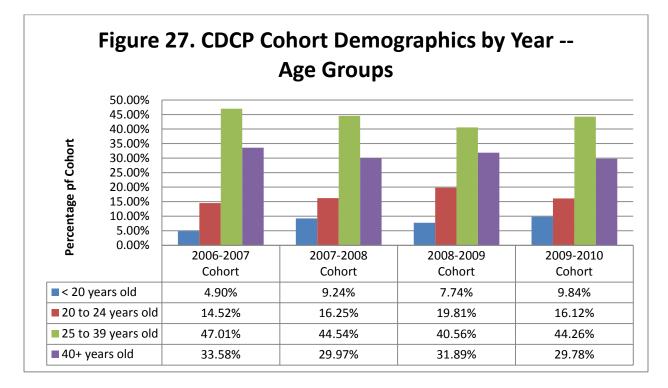


Figure 27 shows the demographic composition of the CDCP cohorts disaggregated by age groups. The largest segment of all cohorts is the 25-39 year old age group. This is a much older group than the general student population at Saddleback College.

Figure 28 shows the demographic composition of the CDCP cohorts disaggregated by age groups. Notice that only three ethnic groups are shown (Asian, Hispanic, and White.) The remaining groups are not included because the number of individuals in the cells is less than ten, hence privacy concerns prohibit inclusion.

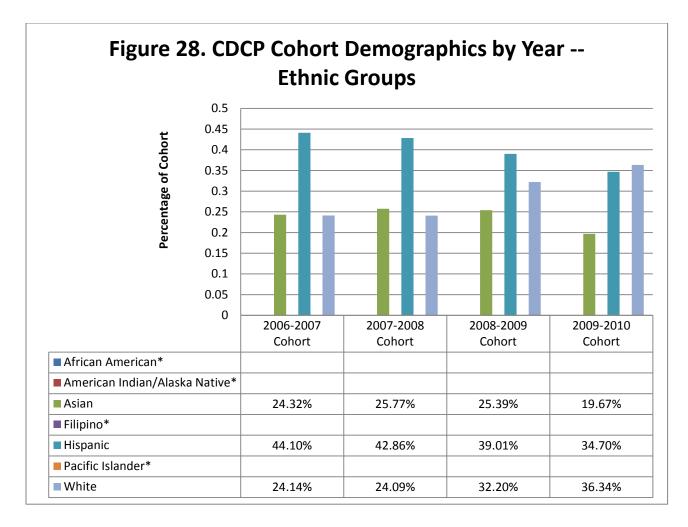


Figure 29 shows success rates for the entire cohort for Saddleback College and for the entire CCC system statewide. The success rates are low (less than 15%) for both the system and for Saddleback College. The trendline for Saddleback College is positive, while the statewide trendline is negative.

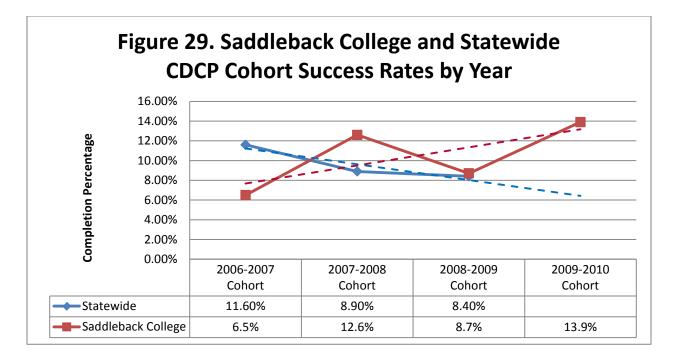
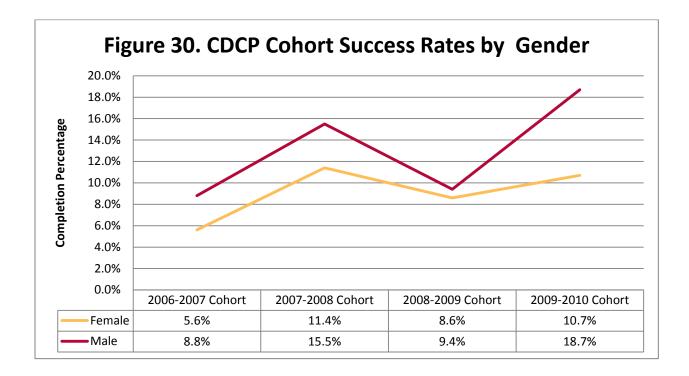


Figure 30 shows success rates for the CDCP cohorts disaggregated by gender. Males outnumbered females in the cohort and showed greater success.



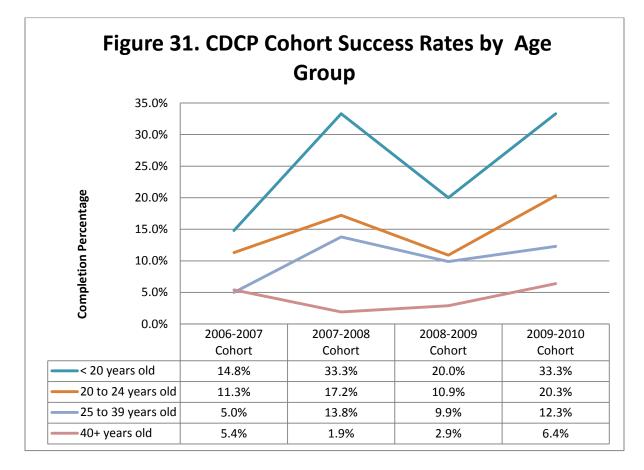


Figure 31shows success rates for the CDCP cohorts disaggregated by age groups. Again, the largest age group from 25-39 showed the greatest success.

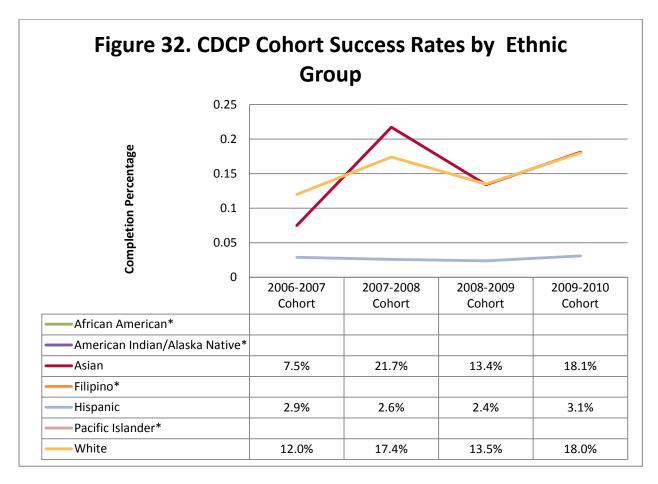


Figure 32 shows the success rate for the CDCP cohorts disaggregated by ethnic groups. Only those ethnic groups that are large enough to provide sufficient numbers in individual cells are shown in the graph.